Regulation and Development of Membrane Transport Processes

Edited by J.S. Graves

John Wiley and Sons; New York, 1985

287 pages. £48.30

This book is based on the proceedings of the 37th Annual Symposium of the Society of General Physiologists (1983). It is a multi-author collection of authorative reviews which have been divided under three headings. Section 1 deals with the general regulation of membrane transport. There are 4 reviews in this section and topics include the regulation of sugar transport, calcium transport and sodium transport. Section 2 (6 review articles) deals exclusively with the regulation of ion transport in epithelial tissue while Section 3 (6 review articles) deals with changes in membrane transport that occur in differentiation. Collectively the authors define three forms of regulation: (1) gene expression leading to de novo synthesis, (2) insertion and removal of cytoplasmic membrane vesicles (containing transporters) into the plasma membrane, (3) in situ modification of the transport system in the membrane. It is the second of these possibilities for regulation that has received increasing attention over recent years and it is useful to see a collection of the information. Insulin regulation of sugar transport, vasopressin regulation of sodium transport and CO_2 regulation of the insertion of a proton translocating ATPase are all examples of this regulatory mechanism which are dealt with in this book. Various views are expressed by different authors concerning the possibility that the regulation of the Na/K ATPase is also via this mechanism. In some cells the regulation of this enzyme by in situ modification is thought to be more likely.

This is a particularly useful book for research workers interested in ion transport. The articles are all well presented and have a common structure including a summary section at the end of each review. The high quality of the presentation makes the book rather expensive but because the content of most of the reviews is extremely informative, the book is certainly worth recommending.

G.D. Holman

Laboratory and Research Methods in Biology and Medicine, Volume 10

Lipid Research Methodology

Edited by Jon R. Story

Alan R. Liss; New York, 1984

287 pages. £37.00

This is well-structured volume has 8 very informative chapters, which attempt a particularly broad coverage of the area of lipid research. The topics range from essentially routine AutoAnalyser clinical methods through metabolism to detailed structural analysis of lipids.